

# Sensor/actuator cable - SAC-3P- 1,5-PVC/M12FS-2L - 1414556

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Sensor/actuator cable, 3-position, PVC, black RAL 9005, free cable end, on Socket straight M12, A-coded, with 2 LEDs, cable length: 1.5 m

## Your advantages

- ✓ Easy and safe: 100% electrically tested plug-in components
- ✓ Convenient: increased machine availability thanks to quick and easy diagnostics



## Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 pc  |
| GTIN                                 | <br>4 055626 036120 |
| GTIN                                 | 4055626036120   |
| Weight per Piece (excluding packing) | 53.900 g  |
| Custom tariff number                 | 85444290  |
| Country of origin                    | Poland  |

## Technical data

### Dimensions

|                 |       |
|-----------------|-------|
| Length of cable | 1.5 m |
|-----------------|-------|

### Ambient conditions

|                                 |                                  |
|---------------------------------|----------------------------------|
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket) |
| Degree of protection            | IP65                             |
|                                 | IP67                             |
|                                 | IP68                             |

### General

|                       |         |
|-----------------------|---------|
| Rated current at 40°C | 4 A     |
| Rated voltage         | 24 V    |
|                       | 24 V DC |

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## Technical data

### General

|                              |                               |
|------------------------------|-------------------------------|
| Number of positions          | 3                             |
| Color handle area            | transparent                   |
| Insulation resistance        | ≥ 100 MΩ                      |
| Coding                       | A - standard                  |
| Standards/regulations        | M12 connector IEC 61076-2-101 |
| Status display               | 2 LEDs                        |
| Protective circuit/component | unwired                       |
| Overvoltage category         | II                            |
| Degree of pollution          | 3                             |
| Insertion/withdrawal cycles  | ≥ 100                         |

### Material

|  |   |
|--|---|
| Flammability rating according to UL 94 | HB  |
| Contact material                       | CuSn  |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | TPU GF                                      |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Material, knurls                       | Zinc die-cast, nickel-plated                |
| Sealing material                       | NBR   |

### Standards and Regulations

|  |                 |
|--|-----------------|
| Standard designation                   | M12 connector   |
| Standards/regulations                  | IEC 61076-2-101 |
| Flammability rating according to UL 94 | HB              |

### Cable

|   |                                       |
|---|---------------------------------------|
| Cable type                                    | PVC black                             |
| Cable type (abbreviation)                     | PVC                                   |
| Cable abbreviation                            | LiYY                                  |
| UL AWM style                                  | 2464 / 1729 (80°C/300 V)              |
| Conductor cross section                       | 3x 0.34 mm <sup>2</sup> (Signal line) |
| AWG signal line                               | 22                                    |
| Conductor structure signal line               | 19x 0.15 mm                           |
| Core diameter including insulation            | 1.26 mm ±0.05 mm                      |
| Thickness, insulation                         | ≥ 0.23 mm (Core insulation)           |
| Wire colors                                   | brown, blue, black                    |
| Overall twist                                 | 3 wires, twisted                      |
| External sheath, color                        | black RAL 9005                        |
| Outer sheath thickness                        | ≥ 0.76 mm                             |
| External cable diameter D                     | 4.3 mm ±0.2 mm                        |
| Minimum bending radius, fixed installation    | 5 x D                                 |
| Minimum bending radius, flexible installation | 10 x D                                |

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## Technical data

### Cable

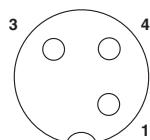
|                                 |   |
|---------------------------------|---|
| Cable weight                    | 40 kg/km  |
| Outer sheath, material          | PVC   |
| Material conductor insulation   | PVC   |
| Conductor material              | Bare Cu litz wires                              |
| Insulation resistance           | ≥ 100 MΩ*km (at 20 °C)                          |
| Conductor resistance            | max. 57 Ω/km (at 20 °C)                         |
| Nominal voltage, cable          | ≤ 300 V   |
| Test voltage, cable             | ≥ 2500 V  |
| Flame resistance                | As per UL-Style 2464                            |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation)    |
|                                 | -25 °C ... 80 °C (cable, flexible installation) |

### Environmental Product Compliance

|            |   |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

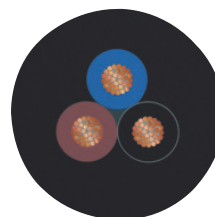
## Drawings

Schematic diagram



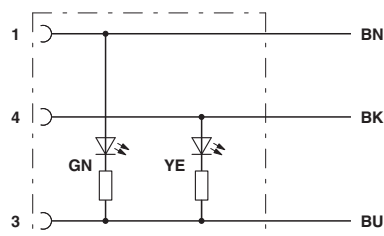
Pin assignment M12 socket, 3-pos., A-coded, view female side

Cable cross section



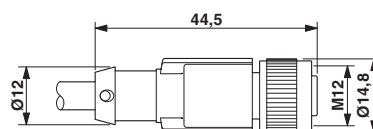
PVC black [PVC]

Circuit diagram



Contact assignment of M12 sockets with LED

Dimensional drawing



Socket M12 x 1, straight, with LED

## Classifications

eCI@ss

|            |          |
|------------|----------|
| eCI@ss 5.1 | 27061800 |
|------------|----------|

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## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 6.0 | 27279200 |
| eCl@ss 7.0 | 27279218 |
| eCl@ss 8.0 | 27279218 |
| eCl@ss 9.0 | 27060311 |

### ETIM

|          |          |
|----------|----------|
| ETIM 5.0 | EC001855 |
| ETIM 6.0 | EC001855 |

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 13.2 | 31251501 |
|-------------|----------|

## Approvals

### Approvals

#### Approvals

UL Listed / cUL Listed / cULus Listed

#### Ex Approvals

### Approval details

|                    |      |   |               |
|--------------------|------|---|---------------|
| UL Listed          |      | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 221474 |
|                    |      |   |               |
| Nominal voltage UN | 24 V |   |               |
| Nominal current IN | 4 A  |   |               |

|                    |      |   |               |
|--------------------|------|---|---------------|
| cUL Listed         |      | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | FILE E 221474 |
|                    |      |   |               |
| Nominal voltage UN | 24 V |   |               |
| Nominal current IN | 4 A  |   |               |

|              |  |
|--------------|--|
| cULus Listed |  |
|--------------|--|

## Sensor/actuator cable - SAC-3P- 1,5-PVC/M12FS-2L - 1414556

### Accessories

#### Accessories

#### Conductor marking

Insert label - PABA WH/23 - 1013779



Insert label, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 - 35 mm, lettering field size: 23 x 4 mm

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Insert label - PABA YE/23 - 1013782



Insert label, Strip, yellow, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 1.5 - 35 mm, lettering field size: 23 x 4 mm

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Insert label - PABA WH/15 - 1013151



Insert label, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 0.6 - 50 mm, lettering field size: 15 x 4 mm

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Insert label - PABA YE/15 - 1013698



Insert label, Strip, yellow, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 0.6 - 50 mm, lettering field size: 15 x 4 mm

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Insert label - PABA RD/15 - 1013944



Insert label, Strip, red, unlabeled, can be labeled with: CMS-P1-PLOTTER, mounting type: thread on, cable diameter range: 0.6 - 50 mm, lettering field size: 15 x 4 mm

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#### Corrugated pipe

## Sensor/actuator cable - SAC-3P- 1,5-PVC/M12FS-2L - 1414556

### Accessories

Protective hose - WP-PA HF 13,0 BK - 3240681



Polyamide protective hose, inflammability class V0, UV resistant

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Protective hose - WP-PA HF-HB 13,0 BK - 3240839



Polyamide protective hose, inflammability class HB, UV resistant

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### Cutting tools

Diagonal cutter - CUTFOX-S VDE - 1212207



Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

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### Marker carrier cable

Conductor marker carrier - PATG 2/15 - 1013038



Conductor marker carrier, transparent, unlabeled, mounting type: slide on, cable diameter range: 2 - 4 mm, lettering field size: 15 x 4 mm

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Conductor marker carrier - PATG 3/15 - 1013041



Conductor marker carrier, transparent, unlabeled, mounting type: slide on, cable diameter range: 4 - 7 mm, lettering field size: 15 x 4 mm

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## Sensor/actuator cable - SAC-3P- 1,5-PVC/M12FS-2L - 1414556

### Accessories

Conductor marker carrier - PATG 4/15 - 1013054



Conductor marker carrier, transparent, unlabeled, mounting type: slide on, cable diameter range: 6 - 10 mm, lettering field size: 15 x 4 mm

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### Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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### Protective cap

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



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### Safety locking

Locking clip - SAC-M12-EXCLIP-F - 1558991



Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

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### Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

## Sensor/actuator cable - SAC-3P- 1,5-PVC/M12FS-2L - 1414556

### Accessories

Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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### Stripping tool

Stripping tool - WIREFOX SAC-1 - 1212757



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from  $\varnothing$  of 3.2 to 4.4 mm, any stripping length

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Stripping tool - WIREFOX SAC - 1212623



Stripping pliers, for halogen-free sensor/actuator cables (SAC cables), with PUR and PVC insulation, from  $\varnothing$  of 4.4 to 7 mm, any stripping length

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Stripping tool - WIREFOX 10 - 1212150



Stripping tool, for cables and conductors from 0.02 - 10 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

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### Torque tool

Torque screwdriver - TSD 04 SAC - 1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors



## Sensor/actuator cable - SAC-3P- 1,5-PVC/M12FS-2L - 1414556

### Accessories

Torque screwdriver - TSD-M 1,2NM - 1212224



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

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Protective hose adapter - WP-CTA POM 13,0 BK - 1422884



Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel

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